

RD

3400 Forest Pest Management

DEC 14 1983

Biological Evaluation of Lost Creek Unit, Zigzag RD

Forest Supervisor, Mt. Hood NF

On November 30, Gregory M. Filip, Plant Pathologist from Forest Pest Management at the Regional Office, visited the Zigzag Ranger District. Purpose of the visit was to examine Lost Creek Unit #1 for mortality caused by root disease. He was accompanied by Sheila Pike, District TSI Forester.

Lost Creek Unit #1 is about 20 acres in size at 2400-foot elevation. Slope is 0 to 10% with a south exposure. The larger trees in the stand are 20-year-old Douglas-fir at 10 to 12 inches DBH. They are evenly distributed throughout the unit with good spacing (12 to 15 feet). Some pole-size white pine, Pacific silver fir, and hemlock are also present. The understory is composed of cedar and hemlock seedlings and saplings. The unit was partially thinned in 1972.

A few widely scattered white pine and Douglas-fir had been killed in the unit. Root collar examination of some of these dead trees revealed the presence of *Armillaria mellea*, cause of Armillaria root rot. A few trees had died as a result of animal feeding and bark stripping. Several Douglas-firs in the unit had chlorotic crowns. These trees were scattered throughout the unit, not in clumps, and appeared to be related to some sort of soil nutrient deficiency, since no dead trees were adjacent to the chlorotic ones. Several Douglas-firs had severe bark damage caused by sapsuckers.

The unit is also reported to have some laminated root rot, caused by *Phellinus weirii*, but none was observed on this visit.

Armillaria root rot is almost always present in West Side plantations and only occasionally causes widespread mortality of young trees. Usually in such cases, affected trees are off-site stock or have been weakened by other factors such as insects, drought, animals, or soil problems. Some of the dead trees in this unit appeared to have been killed because of a high water table and were later infected by Armillaria. More trees in the unit probably will die as a result of Armillaria root rot in conjunction with animal and sapsucker damage. Douglas-firs after 25 to 30 years should become more resistant to Armillaria.

At this point, we do not recommend altering stand management to account for Armillaria root rot. We encourage activities that would increase the vigor of the stand, such as thinning or perhaps fertilizing, to reduce the chance of Armillaria-associated mortality. A soil scientist or plant ecologist could be consulted concerning the possible soil nutrient problem. If laminated root rot is present in the stand, the heavy stocking of cedar and hemlock should reduce future losses, since these species are more resistant to *P. weirii* than Douglas-fir.

Also discussed with Sheila Pike and Dave Hankin is the possibility of FPM surveying portions of the Enola Sale Area for laminated root rot. The District is formulating a prescription for this area, and it would be useful to know the locations of major laminated root rot centers which could influence cutting unit layout. FPM pathologists could perform this survey as soon as the District needs this information. Please contact us if there are any questions.

PAUL E. BUFFAM

PAUL E. BUFFAM, Director
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